

P-3 Orion 04/22/18

Aircraft: [P-3 Orion - WFF](#) (See full schedule)

Flight Number: 2018 OIB Arctic -Science #13

Payload Configuration: 2018 OIB Arctic

Nav Data Collected: No

Total Flight Time: 6.5 hours

Submitted by: Janet Letchworth on 04/23/18

Flight Segments:

From:	BGSF	To:	BGSF
Start:	04/22/18 14:10 Z	Finish:	04/22/18 20:42 Z
Flight Time:	6.5 hours		
Log Number:	18P008	PI:	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Local Kangerlussuaq weather delayed our departure this morning. The flight covered the baseline Southwest Coastal A line. Weather during the flight led to a decision to shorten the mission in order to maximize data collection and allow for a better flight opportunity the following day without violating crew work hour guidelines.		

Flight Hour Summary:

	18P008
Flight Hours Approved in SOFRS	201.2
Total Used	190.4
Total Remaining	10.8

18P008 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
03/13/18	2018 OIB Arctic - Airworthiness Test Flight	Other	0.8	0.8	200.4	
03/14/18	2018 OIB Arctic -Project Test Flight - Laser	Other	2.6	3.4	197.8	
03/15/18	2018 OIB Arctic -Project Test Flight - Radar	Other	5.7	9.1	192.1	
03/18/18	2018 OIB Arctic -delta ATF	Other	0.8	9.9	191.3	
03/20/18	2018 OIB Arctic -Transit to Thule	Transit	7.9	17.8	183.4	
03/22/18	2018 OIB Arctic - Science #1	Science	7.8	25.6	175.6	
04/03/18	2018 OIB Arctic - Science #2	Science	7.9	33.5	167.7	
04/04/18	2018 OIB Arctic - Science #3	Science	8.1	41.6	159.6	
04/05/18	2018 OIB Arctic - Science #4	Science	8	49.6	151.6	
04/06/18	2018 OIB Arctic - Science #5	Science	8.8	58.4	142.8	
04/07/18 - 04/08/18	2018 OIB Arctic - Science #6	Science	8.1	66.5	134.7	
04/08/18 - 04/09/18	2018 OIB Arctic - Science #7	Science	8.3	74.8	126.4	
04/14/18 - 04/15/18	2018 OIB Arctic - Science #8	Science	7.7	82.5	118.7	

04/16/18	2018 OIB Arctic - Science #9	Science	8.2	90.7	110.5
04/18/18	2018 OIB Arctic - Science #10	Science	8	98.7	102.5
04/19/18	2018 OIB Arctic - Science #11	Science	7.7	106.4	94.8
04/20/18	2018 OIB Arctic -Transit to Kanger	Transit	4.2	110.6	90.6
04/21/18	2018 OIB Arctic - Science #12	Science	8.1	118.7	82.5
04/22/18	2018 OIB Arctic - Science #13	Science	6.5	125.2	76
04/23/18	2018 OIB Arctic - Science #14	Science	8.2	133.4	67.8
04/25/18	2018 OIB Arctic - Science #15	Science	7.7	141.1	60.1
04/26/18	2018 OIB Arctic - Science #16	Science	8.8	149.9	51.3
04/27/18	2018 OIB Arctic - Science #17	Science	8	157.9	43.3
04/29/18	2018 OIB Arctic - Science #18	Science	8.3	166.2	35
04/30/18	2018 OIB Arctic - Science #19	Science	9.3	175.5	25.7
05/01/18	2018 OIB Arctic - Science #20	Science	7.4	182.9	18.3
05/03/18	2018 OIB Arctic -Return Transit Leg #1	Transit	6.4	189.3	11.9
05/03/18	2018 OIB Arctic -Return Transit Leg #2	Transit	0.6	189.9	11.3
05/03/18	2018 OIB Arctic -Return Transit Leg #3	Transit	0.5	190.4	10.8

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB - P-3 Orion 04/22/18 Science Report

Mission: OIB

Mission Summary:

Mission: Southwest Coastal A

Priority: Baseline

This baseline mission is one of two (with Southwest Coastal B) designed to mirror the southeastern coast-parallel coverage in the southwest, along 2011 LVIS flight lines. This particular flight captures the lowest-altitude portion of this part of the ice sheet. We also overfly a total of six PROMICE sites.

After a four-hour delay due to local heavy fog in Kangerlussuaq, we were able to launch this baseline mission to clear skies directly above the dissipating fog. For dual-color ATM T7, prior to the start of this mission, the near-IR sensor was replaced with a larger bandwidth but narrower aperture sensor. This instrument was turned on and off several times during the course of the mission and no near-IR data were recorded as several initial experiments were performed. During the western small grid, east of Sukkertoppen, we recorded some Headwall hyperspectral data across both ice and rock. We encountered expected but thicker clouds at the southeast end of the mission and were able to navigate through some of them, passing by the town of Narsarsuaq in doing so.

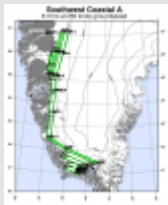
Ultimately, however, they grew too thick and too close to terrain for us to navigate safely, and we were forced to abort the southern grid early, losing all of the four southernmost lines in the process. No significant melt was observed throughout the mission, although some small pockets of recent refreeze were observed. All instruments functioned well overall. MCoRDS reported a brief software GPS glitch. A N/S ramp pass at 2000 ft AGL was performed.

Attached images:

1. Map of today's mission (John Sonntag / NASA)
2. Significant sedimentation into an ice-terminal lake, a common feature in southwestern Greenland (Joe MacGregor / NASA)
3. An apparently catastrophic drainage of a small ice-marginal lake, as evidenced by stranded ice rubble (formerly icebergs) downstream of a lateral moraine possibly advancing post-drainage (Joe MacGregor / NASA)
4. Natural infinity pool, or a perched lake next to a cliff (John Sonntag / NASA)

Images:

Map of today's mission



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Significant sedimentation into an ice-terminal lake, a common



[Read more](#)

An apparently catastrophic drainage of a small ice-marginal lake, as



[Read more](#)

Natural infinity pool, or a perched lake next to a cliff



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